(iii) a transgene under the control of said first promoter;

D1 (iv) a second nucleic acid construct having the coding sequence for a transcriptional regulatory protein operably linked to a regulatable promoter, and the DNA binding compound.

9. (Amended) A molecular switch, comprising:
an adenovirus vector having

(i) a DNA response element for a transcriptional regulatory protein operably linked to a first promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said DNA response element for binding to a DNA binding compound;

(iii) a transgene under the control of said first promoter; and

D2 the DNA binding compound.

10. (Amended) A molecular switch, comprising:
an adeno-associated virus vector having

(i) a DNA response element for a transcriptional regulatory protein operably linked to a first promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said DNA response element for binding to a DNA binding compound;

(iii) a transgene under the control of said first promoter; and
the DNA binding compound.

12. (Amended) A molecular switch, comprising:
a first nucleic acid construct having

(i) a DNA response element for a transcriptional regulatory protein operably linked

D3 to a regulatable promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said transcriptional regulatory protein DNA response element for binding to a DNA binding compound;

(iii) a transgene and the coding sequence for a transcriptional regulatory protein under the control of and operably linked to said regulatable promoter;

D3

(iv) the coding sequence for a transcriptional regulatory protein operably linked to said regulatable promoter; and

Cont

the DNA binding compound.

19. (Amended) The method according to claim 18, comprising:

(iii) further transforming said cell with a second nucleic acid construct having a nucleic acid sequence encoding a transcriptional regulatory protein operably linked to a second promoter.

D4

21. (Amended) A molecular switch, comprising:

a first nucleic acid construct having

(i) a DNA response element for a transcriptional regulatory protein operably linked to a first promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said DNA response element for binding to a DNA binding compound;

(iii) a transgene under the control of said first promoter; and

the DNA binding compound,

wherein said transcriptional regulatory protein has a DNA binding sequence selected from the group consisting of a UL9 sequence, an NF-B sequence, a GAL4 sequence, a ZFHD1 sequence, a LacR sequence, a TetR sequence, a LexA sequence, and the ecdysone receptor binding sequence.

D5

22. (Amended) A cell comprising a molecular switch comprising

a first nucleic acid construct having

(i) a DNA response element for a transcriptional regulatory protein operably linked to a first promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said DNA response element for binding to a DNA binding compound;

(iii) a transgene under the control of said first promoter; and

D5 the DNA binding compound,

wherein the DNA binding sequence of said transcriptional regulatory protein is selected

Cont from the group consisting of a UL9 sequence, an NF-$_K$B sequence, a GAL4 sequence, a ZFHD1 sequence, a LacR sequence, a TetR sequence, a LexA sequence, and the ecdysone receptor binding sequence.

23. (Twice Amended) A molecular switch, comprising:

a first nucleic acid construct having

(i) a DNA response element for a transcriptional regulatory protein operably linked to a first promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said DNA response element for binding to a DNA binding compound;

(iii) a transgene under the control of said first promoter; and

the DNA binding compound,

wherein said DNA response element binds a transcriptional regulatory protein which comprises an activator domain selected from the group consisting of VP16, NF-B, Gal4, TFE3, ITF1, Oct-1, Sp1, Oct-2, NFY-A, ITF2, c-myc, and CTF.

D6 24. (Twice Amended) A cell comprising a molecular switch comprising

a first nucleic acid construct having

(i) a DNA response element for a transcriptional regulatory protein operably linked to a first promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said DNA response element for binding to a DNA binding compound;

(iii) a transgene under the control of said first promoter; and

the DNA binding compound,

wherein the DNA response element binds a transcriptional regulatory protein which comprises an activator selected from the group consisting of VP16, NF-B, Gal4, TFE3, ITF1, Oct-1, Sp1, Oct-2, NFY-A, ITF2, c-myc, and CTF.

25. (Twice Amended) A molecular switch, comprising:
a first nucleic acid construct having

(i) a DNA response element for a transcriptional regulatory protein operably linked to a first promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said DNA response element for binding to a DNA binding compound;

(iii) a transgene under the control of said first promoter; and
the DNA binding compound,

wherein the DNA response element binds a transcriptional regulatory protein which comprises a repressor selected from the group consisting of Kruppel (KRAB), kox-1, TetR, even-skipped, LacR, engrailed, hairy (HES), Groucho (TLE), RING1, SSB16, SSB24, Tup1, Nab1, AREB, E4BP4, HoxA7, EBNA3, Mad and v-erbA.

D 6

Cont

26. (Twice Amended) A cell comprising a molecular switch comprising
a first nucleic acid construct having

(i) a DNA response element for a transcriptional regulatory protein operably linked to a first promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said DNA response element for binding to a DNA binding compound;

(iii) a transgene under the control of said first promoter; and
the DNA binding compound,

wherein the DNA response element binds a transcriptional regulatory protein which comprises a repressor selected from the group consisting of Kruppel (KRAB), kox-1, TetR, even-skipped, LacR, engrailed, hairy (hes), Groucho(TLE), RING1, SSB16, SSB24, Tup1, Nab1, AREB, E4BP4, HoxA7, EBNA3, Mad and v-erbA.

34. (New) A cell comprising a molecular switch comprising
a first nucleic acid construct having

D7

(i) a DNA response element for a transcriptional regulatory protein operably linked

to a regulatable promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said transcriptional regulatory protein DNA response element for binding to a DNA binding compound;

(iii) a transgene and the coding sequence for a transcriptional regulatory protein under the control of and operably linked to said regulatable promoter; and
the DNA binding compound,
wherein the DNA binding sequence of said transcriptional regulatory protein is selected from the group consisting of a UL9 sequence, an NF-$_K$B sequence, a GAL4 sequence, a ZFHD1 sequence, a LacR sequence, a TetR sequence, a LexA sequence, and the ecdysone receptor binding sequence.

35. (New) A molecular switch, comprising:
a first nucleic acid construct having

D7 Cont

(i) a DNA response element for a transcriptional regulatory protein operably linked to a regulatable promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said transcriptional regulatory protein DNA response element for binding to a DNA binding compound;

(iii) a transgene and the coding sequence for a transcriptional regulatory protein under the control of and operably linked to said regulatable promoter; and
the DNA binding compound,

wherein said transcriptional regulatory protein has a DNA binding sequence selected from the group consisting of a UL9 sequence, an NF-$_K$B sequence, a GAL4 sequence, a ZFHD1 sequence, a LacR sequence, a TetR sequence, a LexA sequence, and the ecdysone receptor binding sequence.

36. (New) A molecular switch, comprising:
a first nucleic acid construct having

(i) a DNA response element for a transcriptional regulatory protein operably linked

to a regulatable promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said transcriptional regulatory protein DNA response element for binding to a DNA binding compound;

(iii) a transgene and the coding sequence for a transcriptional regulatory protein under the control of and operably linked to said regulatable promoter; and
the DNA binding compound,

wherein said DNA response element binds a transcriptional regulatory protein which comprises an activator domain selected from the group consisting of VP16, NF-$_K$B, Gal4, TFE3, ITF1, Oct-1, Sp1, Oct-2, NFY-A, ITF2, c-myc, and CTF.

37. (New) A cell comprising a molecular switch comprising
a first nucleic acid construct having

D, 7 Cont

(i) a DNA response element for a transcriptional regulatory protein operably linked to a regulatable promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said transcriptional regulatory protein DNA response element for binding to a DNA binding compound;

(iii) a transgene and the coding sequence for a transcriptional regulatory protein under the control of and operably linked to said regulatable promoter; and
the DNA binding compound,

wherein the DNA response element binds a transcriptional regulatory protein which comprises an activator selected from the group consisting of VP16, NF-$_K$B, Gal4, TFE3, ITF1, Oct-1, Sp1, Oct-2, NFY-A, ITF2, c-myc, and CTF.

38. (New) A molecular switch, comprising:
a first nucleic acid construct having

(i) a DNA response element for a transcriptional regulatory protein operably linked to a regulatable promoter;

(ii) a non-native compound binding sequence which is the same as, overlapping,

or adjacent to said transcriptional regulatory protein DNA response element for binding to a DNA binding compound;

(iii) a transgene and the coding sequence for a transcriptional regulatory protein under the control of and operably linked to said regulatable promoter; and
the DNA binding compound,

wherein the DNA response element binds a transcriptional regulatory protein which comprises a repressor selected from the group consisting of Kruppel (KRAB), kox-1, TetR, even-skipped, LacR, engrailed, hairy (HES), Groucho (TLE), RING1, SSB16, SSB24, Tup1, Nab1, AREB, E4BP4, HoxA7, EBNA3, Mad and v-erbA.

39. (New) A cell comprising a molecular switch comprising
a first nucleic acid construct having

(i) a DNA response element for a transcriptional regulatory protein operably linked to a regulatable promoter;

D7

(ii) a non-native compound binding sequence which is the same as, overlapping, or adjacent to said transcriptional regulatory protein DNA response element for binding to a DNA binding compound;

(iii) a transgene and the coding sequence for a transcriptional regulatory protein under the control of and operably linked to said regulatable promoter; and
the DNA binding compound,

wherein the DNA response element binds a transcriptional regulatory protein which comprises a repressor selected from the group consisting of Kruppel (KRAB), kox-1, TetR, even-skipped, LacR, engrailed, hairy (hes), Groucho(TLE), RING1, SSB16, SSB24, Tup1, Nab1, AREB, E4BP4, HoxA7, EBNA3, Mad and v-erbA.

REMARKS

Reconsideration of the rejections set forth in the Office Action dated March 27, 2003 is respectfully requested.